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CARDIAC ARRHYTHMIAS

J-POINT ELEVATION PRIOR TO ACUTE MYOCARDIAL INFARCTION DOES NOT INCREASE RISK FOR VENTRICULAR ARRHYTHMIAS

ACC Poster Contributions
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Background: J-point elevation on the electrocardiogram (ECG) has recently been linked to idiopathic ventricular fibrillation in patients without structural heart disease. It is unknown if there is an association between J-point elevation and ventricular tachyarrhythmias (VTAs) during acute ST-segment elevation myocardial infarction (STEMI).

Methods: In a case-control design, 56 cases with documented VTAs during hospital stay following STEMI were matched with 56 controls without VTAs following STEMI. Cases and controls were matched for age, gender, and troponin level. Baseline ECGs were obtained prior to the STEMI and were analyzed for J-point elevation, which was defined as notching or slurring elevated >0.1 mV above baseline in at least 2 lateral or inferior leads. The incidence of J-point elevation was assessed by stratified logistic regression.

Results: 56 cases and 56 controls (68M/44W, 65±14 yrs, peak troponin 28±34 μg/L) were studied. In baseline ECGs, J-point elevation of at least 2 leads occurred with similar frequency among cases and controls (9% vs. 7%, $p<0.2$). This was true for notching of the J-point among cases and controls (7% vs. 4%, $p<0.5$) and slurring of the J-point (5% vs. 5%, $p= 1.0$).

Conclusion: In acute STEMI patients, a high-risk arrhythmia group, the presence of prior J-point elevation does not appear to add VTA risk. This is unlike findings in healed myocardial infarction, where the presence of baseline J-point elevation or notching does increase the incidence of VTA.